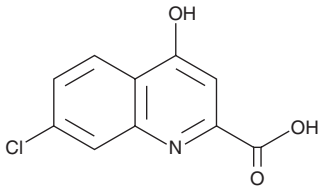
PRODUCT INFORMATION

7-Chlorokynurenic Acid

Item No. 33408

CAS Registry No.:	18000-24-3
Formal Name:	7-chloro-4-hydroxy-2-quinolinecarboxylic acid
Synonyms:	7-CKA, 7-CTKA, 7-chloro KYNA, NSC 149792
MF:	$C_{10}H_6ClNO_3$
FW:	223.6
Purity:	≥95%
UV/Vis.:	λ_{max}: 223, 250, 340 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

7-Chlorokynurenic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 7-chlorokynurenic acid in the solvent of choice, which should be purged with an inert gas. 7-Chlorokynurenic acid is slightly soluble in ethanol and DMSO.

Description

7-Chlorokynurenic acid is an NMDA receptor antagonist.[1] It selectively binds to the NMDA receptor glycine-binding site (IC_{50} = 0.56 µM) over the NMDA-, quisqualate-, and kainate-binding sites (IC_{50}s = 169, 153, and >1,000 µM, respectively). Intra-dorsal hippocampal administration of 7-chlorokynurenic acid (3.2 µg per side) increases the number of errors in a three-panel runway test of working memory, an effect that can be blocked by the NMDA glycine-site co-agonist D-serine (Item No. 31197).[2] It also induces antidepressant-like activity in the forced swim test, novelty-suppressed feeding test, and a foot shock-based learned helplessness test in mice when administered at doses of 0.1 and 1 mg/kg.[3]

References

1. Kemp, J.A., Foster, A.C., Leeson, P.D., *et al.* 7-Chlorokynurenic acid is a selective antagonist at the glycine modulatory site of the *N*-methyl-D-aspartate receptor complex. *Proc. Natl. Acad. Sci. USA* **85(17)**, 6547-6550 (1988).
2. Ohno, M., Yamamoto, T., and Watanabe, S. Intrahippocampal administration of a glycine site antagonist impairs working memory performance of rats. *Eur. J. Pharmacol.* **253(1-2)**, 183-187 (1994).
3. Zhu, W.-L., Wang, S.-J., Liu, M.-M., *et al.* Glycine site *N*-methyl-D-aspartate receptor antagonist 7-CTKA produces rapid antidepressant-like effects in male rats. *J. Psychiatry Neurosci.* **38(5)**, 306-316 (2013).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM